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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,192	09/26/2003	Matthew J. McHale	2003P14625US	8944

7590

06/16/2005

Siemens Corporation  
Intellectual Property Department  
170 Wood Avenue South  
Iselin, NJ 08830

EXAMINER
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PATEL, VISHAL A

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/672,192	MCHALE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Vishal Patel	3676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 is/are allowed.
- 6) ☒ Claim(s) 1, 8, 10-11 and 13-15 is/are rejected.
- 7) ☐ Claim(s) 2-7 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 8, 11 and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Lebreton (US. 4,979,755).

Regarding claim 1: Lebreton discloses a labyrinth seal for a steam turbine having a stationary housing through which extends a rotating element, wherein the steam turbine includes steam flow regions of differential pressure, the labyrinth seal comprising a seal ring comprising a plurality of adjacent seal segments (segments 14) adapted to be attached to the stationary housing, a plurality of axially spaced-apart seal fins supported by the plurality of seal segments, wherein each one of the plurality of seal fins extends radially inwardly toward the rotating element, at least two of the plurality of seal fins defining a fin groove therein (two fins being a first and third of 20, where the fin groove or channel created between the two fins) and a flow dam disposed within the fin groove and extending radially inwardly toward the rotating element (third of 20 that is between the at least two of the plurality of seal fins).

The rotating element comprising a rotating shaft.

Regarding claim 11: Lebreton discloses a labyrinth seal (seal in figure 3) for a steam turbine having a stationary housing through which extends a rotating element and the steam turbine includes steam flow regions of differential pressure (intended use). The labyrinth seal

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comprising a seal ring (12) comprising a plurality of N adjacent seal segments (has four segments) adapted to be attached to the stationary housing. The labyrinth seal comprising at least N+1 flow dams (20) supported by one of the seal segments.

Regarding claims 13-15: A method for reducing circumferential steam flow in a steam turbine having a stationary housing through which extends a rotating element and the steam turbine includes steam flow regions of differential pressure. The method comprising steps: forming a plurality of axially spaced-apart circumferential seal fins extending radially inward toward the rotating element (each segment of seal ring 12), forming a fin groove in each one of the seal fins (groove 32 formed on each end of each segment of the seal ring 12), disposing a flow dam (26) within the fin grooves and the flow dam extends radially inwardly toward the rotating element. The flow dam is oriented perpendicular to the plurality of seal fins (as seen that flow dam 26 is perpendicular to the plurality of seal fins). The step of forming a fin groove further comprising forming a plurality of fin grooves in each one of the plurality of seal fins (each segment has two grooves 32 to receive the flow dams 26) and the step of disposing a flow dam further comprising disposing one of a like plurality of flow dams (two of 26) in a groove in each of the plurality of seal fins.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lebreton in view of Miller (US. 4,420,161).

Lebreton discloses the invention substantially as claimed above but fails to disclose plurality of conditioning vanes supported by the plurality of seal segments and axially spaced apart from the plurality of seal fins. Miller discloses a labyrinth seal having seal segments (segments that are held in housing 20), the segments having a plurality of seal fins (fins 24-26) and plurality of conditioning vanes (vanes 37) supported by the seal segments and axially spaced apart from the plurality of seal fins. It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the seal segment of Lebreton to have conditioning vanes as taught by Miller, to provide steam flow which enters the seal so that flow is in a circumferential direction counter to the direction of shaft rotation (column 5, lines 18-20).

***Allowable Subject Matter***

5. Claim 12 is allowed.

6. Claims 2-7 and 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Applicant can change "therein" in claim 1, line 8, to --in the fins--, to make the claim 1 allowable over Lebreton.

***Response to Arguments***

7. Applicant's arguments filed 4/4/05 have been fully considered but they are not persuasive.

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Applicants' argument that the amended claims overcome the reference of Lebreton is not persuasive because Lebreton teaches all the limitations of claims 11 and 13-15.

Applicants' argument against Lebreton for claims 13-15 are not persuasive since applicant is claiming a plurality of axially spaced apart circumferential seal fins extending radially inwardly toward the rotating element is not persuasive because the fins are the ring segment in conjunction with 20 and each of the segments has two grooves to place a flow dam.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vishal Patel whose telephone number is (571) 272-7060. The examiner can normally be reached on Monday through Friday from 7:30 PM to 4:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford, can be reached on (571) 272-7049.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2168. Technology Center 3600 Customer Service is available at 703-308-1113. General Customer Service numbers are at 800-786-9199 or 703-308-9000. Fax Customer Service is available at 703-872-9325.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:** 703-872-9326, for formal communications for entry before Final action: or,  
703-872-9327, for formal communications for entry after Final action.

Hand-delivered responses should be brought to Crystal Park Five, 2451 Crystal Drive, Arlington, Virginia, Seventh Floor (Receptionist suite adjacent to the elevator lobby).

VP  
June 10, 2005

A handwritten signature in black ink, appearing to read 'Vishal Patel', with a long horizontal flourish extending to the right.

Vishal Patel  
Patent Examiner  
Tech. Center 3600